REMARKS

Pending Claims

In this application, claims 1-3 and 5-8 and 10-19 are pending. Claim 1 is amended herein. Claim 9 is cancelled.

Specification

The Applicant has amended the sentence regarding priority, in accord with the Examiner's direction, to correct a typographical error.

The Applicant has amended the specification on page 9 to correct a typographical error with regard to the reference number for the nut. (The proper reference number for the nut was used earlier in the specification, for example at page 7, lines 25-29.)

Drawings

The Examiner has asked for amendment to the drawings to show the thread/tap of the inner conductor 10 and its mating nut 80. The scale of FIG. 1 is too small to show this detail. To address the Examiner's concern, the Applicant has added a new sheet bearing FIG. 1c (and corresponding text to the specification) to show a portion of the proximal end of the inner conductor 10 and nut 80 in an exploded view. The Applicant asserts that the thread on the inner conductor 10 and the mating tapped feature of the nut 80, as described, for example on page 9, lines 24-33, would be readily understood by one of skill in the art from the written description; no new matter is added.

Rejections under 35 U.S.C. §112

The Examiner has issued five rejections under §112, written description, as follows:

1.) That the following phrase in claim 1 is not adequately described in the specification: "said electrodes being disposed on the exterior of the probe such that in use the electrodes can be brought into electrical contact with tissue simultaneously". Applicant has amended claim 1 to delete the phrase "such that in use the electrodes can be brought into electrical contact with tissue simultaneously." The rest of the offending phrase, "[E]lectrodes being disposed on the exterior of the probe", is clearly shown, for example, in FIG. 1 and therefore is supported by the specification

as filed.

2.) That the following phrase in claim 1 is not supported in the specification: "threaded portion and abutting a portion of said hand portion". Applicant has amended claim 1 to more closely mimic the language of the specification, using "bracking against" rather than "abutting". Applicant respectfully submits that the specification and the drawings as filed clearly describe and show the nut 80 engaging a threaded portion and bracing against a portion of said hand portion. In Fig. 1, the nut 80 is depicted bracing against the hand portion. The hand portion 3 is cross-hatched to show its cross-section and this makes it easy to observe that the hand portion extends into the cavity defined by the hand portion element 4 and terminates at an end that abuts the nut 80. Further, the specification the relationship between the nut and the hand portion:

> In still a further preferred embodiment of the invention the inner conductor at its proximal end has a male screwthread which is designed to brace the inner conductor with a threaded nut against the first hand portion element. (Page 5, lines 14-16.)
>
> The inner conductor 10 has a screwthread at its proximal end so that – in the inserted condition – the inner conductor 10 can be screwed by means of a nut 80 in relation to the hand portion element 3. A contact tongue 81 which is used for contacting of the inner conductor 10 can be provided between the nut 80 and the hand portion element 3. (Page 7, lines 25-29.)
>
> The inner conductor 10 can be screwed against the hand portion element 3 by means of the nut 80 which is screwed onto the M screwthread. (Page 9, lines 31-32.)

3.) That the specification fails to show specifics as to how it is "that the inner conductor is under tensile stress and the outer conductor is under compression stress", as recited in claim 1. The Applicant respectfully submits that one of ordinary skill would appreciate from the depicted figures and the specification how this is accomplished. The Applicant attaches a hand-drawn sketch solely for purposes of discussing this aspect of the invention. The sketch is merely schematic, is not to scale, proportions are not exact or approximate, and it shows components and spaces therebetween in exaggerated form for clear depiction of separate elements; the sketch

omits many elements and features shown in the Figures. All features shown in this sketch are depicted more accurately in the Figures as filed; nevertheless, because this has been a sticking point in prosecution, the Applicant offers the schematic sketch for discussion purposes only and does not request that this sketch be added to the patent figures. (The sketch Applicant submits has some color to help distinguish adjacent components, though Applicant is aware that the color may be stripped during scanning and may not be apparent to the Examiner. In any event, it is noted that some colors are used twice, on different components.)

The inner conductor 10 screws into the tip electrode at the distal end of the probe. At its proximal end, a nut 80 rides on threads on the inner conductor 10, and the nut tightens against the first end portion element 3. This is described in the specification at, for example, page 9, lines 24-32:

> Figure 6 shows a front view and a sectional view of the inner conductor 10. The inner conductor 10 has a M1.4 screwthread both at its proximal end 10a and also at its distal end 10b. At the distal end 10b the inner conductor 10 has a through bore 16 in transverse relationship with longitudinal axis. The M screwthread at the distal end 10b of the inner conductor 10 can be screwed into the screwthreaded bore 17 of the tip electrode 11 while the M screwthread at the proximal end 10a, when the probe is completely assembled, appears out of the longitudinal bore of the hand portion element 3. The inner conductor 10 can be screwed against the hand portion element 3 by means of the nut 81 which is screwed onto the M screwthread.

The outer conductor 19 is longitudinally wedged between the first hand portion element 3 and the tip electrode 11, with the shaft electrode 13 and the insulator ring 12 between the outer conductor 19 and the tip electrode 11. More specifically, through a series of stepped shapes, these parts abut one another. (In the sketch, the parts are slightly exploded or spaced apart to help distinguish one from another; in actuality, as depicted in FIGS. 1b and 2, adjacent parts abut.)

Thus, when the first hand portion element 3 is brought closer to tip 11 (or a force in that direction is applied), the outer conductor is placed under compressive force. These mating shoulders or steps portions are depicted clearly in FIG. 2 and the detailed parts drawings and are discussed in the specification, for example:

> At its proximal end 11a the probe tip 11 further has a portion 41 of smaller

outside diameter, thus producing a step 41a. (FIG. 3; Page 9, lines 1-3.)

At its distal end 13b the shaft electrode 13 has a portion 42 of smaller outside diameter, thus defining a step 42a. At the proximal end 13a of the shaft electrode 13 it has portion 43 of larger diameter, thus providing a further step 43a. The outside diameter of the portion 42 corresponds to the inside diameter of the insulator ring 12 so that the portion 42 can be introduced into the insulator ring 12. The inside diameter of the portion 43 further corresponds to the outside diameter of the outer conductor 19 so that the outer conductor 19 can be inserted into the shaft electrode 13 as far as the step 43a, in order in that way electrically to contact the electrode. (FIG. 5; Page 9, lines 10-18.)

The outside diameter of the outer conductor 19 corresponds to the inside diameter of the portion 43 of the shaft electrode 13 so that the distal end 19b of the outer conductor 19 can be introduced into the proximal end 13a of the shaft electrode 13 as far as the step 43a. (FIG. 8; Page 10, lines 13-16.)

By turning the screw 80, i.e. by moving the screw toward the tip end along the inner conductor, the inner conductor is pulled longitudinally (i.e. is under tensile stress); one end is held by the tip, while the screws against the hand portion 3 pulls the proximal end of the conductor towards the proximal end. At the same time, this screwing action, constrained by the inner conductor's connection to the tip electrode 11, pulls the hand portion 3 toward the tip electrode 11, compressing the outer conductor therebetween. In other words, the distance between the tip electrode 11 and the hand element 3 is essentially fixed due to the components longitudinally aligned theretween (the outer conductor 19, the shaft electrode 13, the insulator ring 12). Turning the nut 80 draws the tip electrode 11 and the hand element 3 toward one another, causing tension in the inner conductor 10 and compression of the outer conductor 19.

All of this is disclosed in the Figures and the specification and would be apparent to one of ordinary skill in the art.

The Applicant respectfully submits that this written description rejection of claim 1 should be withdrawn.

4.) **That the specification fails to describe specifics as to how it is accomplished that the inner conductor is designed to increase the flexural stiffness of the probe arrangement between the probe tip and the hand portion, as recited in claim 1.**

The Applicant respectfully submits that the following paragraphs, in conjunction

with the description of the tensile force in the inner conductor, as described above, supports Applicant's recitation in claim 1:

> In an embodiment of the invention the inner conductor is connected to the hand portion and the probe tip in such a way that the inner conductor is under tensile stress and the outer conductor is under compression stress. That leads to a further increase in the stability of the probe arrangement. Page 3, lines 22-25.
>
> A positively locking or force-locking connection of the outer conductor and also the inner conductor to the probe tip on the one hand and the hand portion on the other hand provides that both the outer conductor and also the inner conductor advantageously contribute to the geometrical moment of inertia and thus enhance the flexural strength. Page 3, lines 17-21.

5.) **That it is not described with specificity how the the force-locking and/or positively locking connection connects the inner conductor to the hand portion and to the probe tip, as recited in claim 2.** It is believed that the discussion above detailing the interaction of the inner conductor with the hand portion and the tip electrode addresses this point, and that the rejection should be withdrawn.

Art Rejections

Claims 1-3 and 5-19 are rejected under 35 U.S.C. §103(a) as being unpatentable over Arndt (U.S. Pat. No. 6,134,476) in view of Prakash (U.S. Pat. No. 6,878,147). Independent claim 1 has been amended, rendering the art rejections moot. Claim 1 recites hollow duct structure for passing cooling fluid. Prakash discloses an antenna; this is non-analogous art and should not be applied. Further, neither reference discloses such a duct structure.

CONCLUSION

All of the claims remaining in this application should now be seen to be in condition for allowance. The prompt issuance of a notice to that effect is solicited.

Respectfully submitted,
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By its attorneys:

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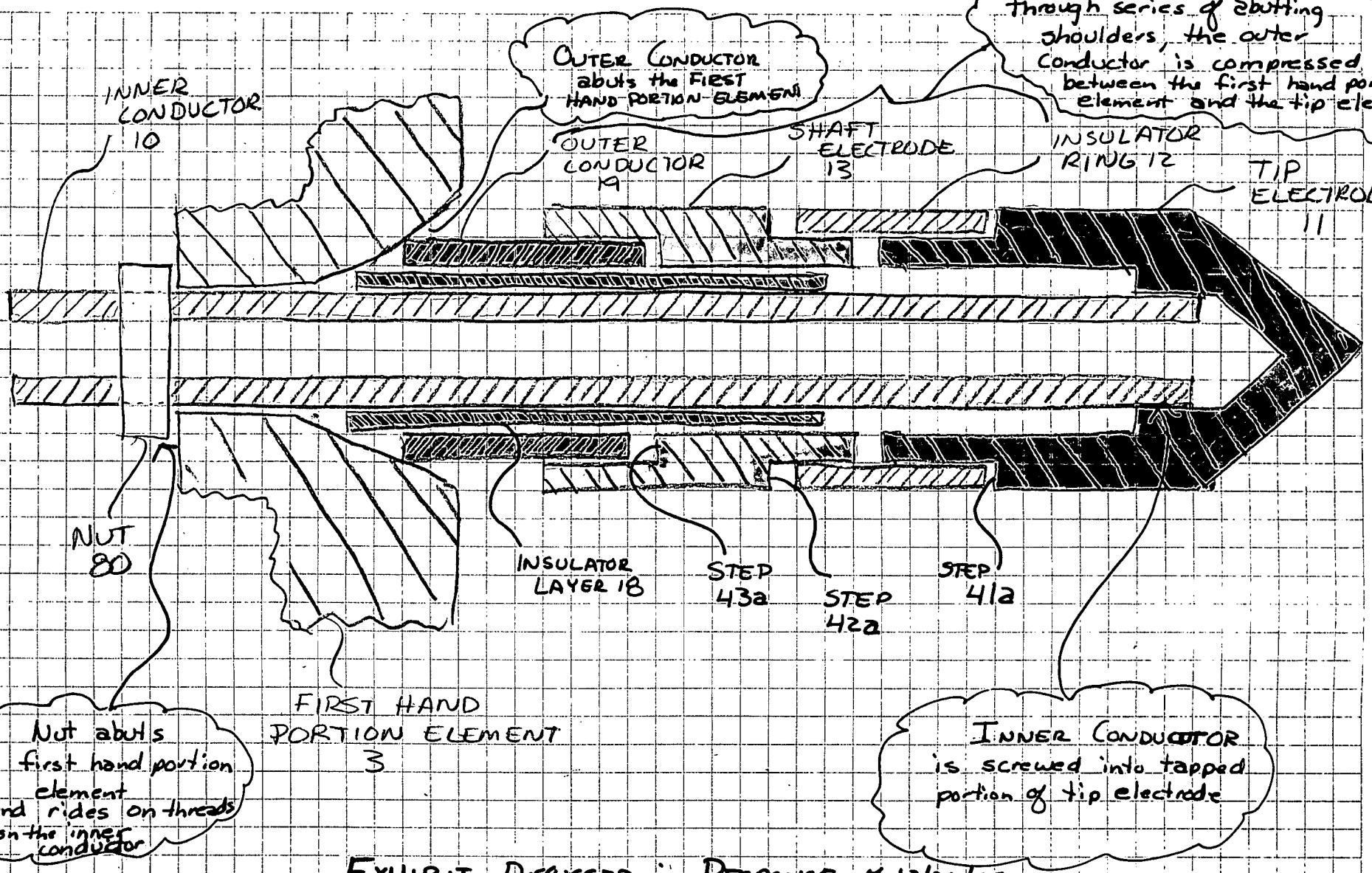

EXHIBIT DISCUSSED in RESPONSE of 12/24/08

NOT a New Sheet of Drawings